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RS1 REGULATIONS: SMALL LOT REVIEW City of Vancouver, B.C.

THE HUBER GROUP
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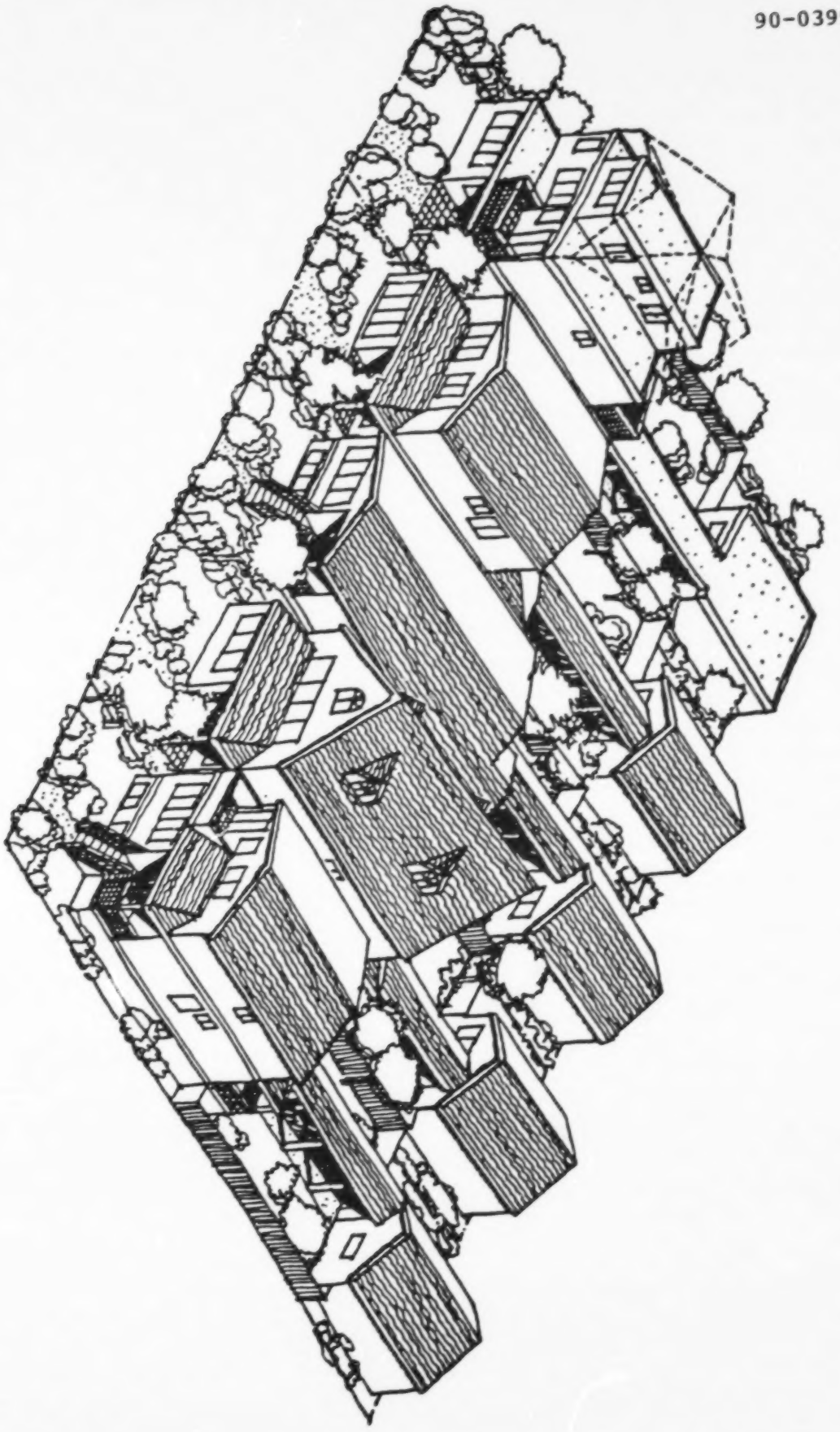

ACKNOWLEDGEMENTS

We at The Hulbert Group have always maintained that our best clients are team players, clients who insist on being involved in all aspects of our work in order to insure the best results. In that regard, it is fair to say that Vancouver's Planning Department, the Permits and Licenses Department, Vancouver's elected representatives and the constituents they represent have all been integral to this report's preparation.

Director of Planning, Mr. Ray Spaxman, Housing Planner, Dr. Ann McAfee and her assistants, Barbara Pettit, Patricia Bourque and David Wong were essential in too many ways to number.

We benefited from the reasoned reflections of the Mayor and Aldermen of the City of Vancouver, both at the initial stage of research when we were plumbing the depths of the problems and later when we had draft proposals for their reaction.

The complexity of the problem we faced would have been impossible to deal with effectively in the short study time frame without the valuable insight provided by the three architectural sub consultants retained by the City of Vancouver to review our work as it developed. Stuart Howard Architect analyzed our draft proposals in detail as applicable to small lot conditions, and made a number of valuable suggestions which are incorporated in the body of this report.

Paul B. Ohannesian Architect prepared an exhaustive analysis of the impact of our proposals on renovation and restoration on the City's smaller lots. Again, a number of his recommendations are incorporated in this report.

Eva Matsuzaki Architect provided an overall conceptual philosophical framework which insured that our detailed considerations of zoning schedules did not lose sight of the goal of maintaining and enhancing the neighborliness of Vancouver's family neighborhoods.

One of the most valuable outcomes of this study will have been the coalescing of opinion from a wide diversity of interest groups in the City. These groups have often been pleasantly surprised during the course of this study as their frank exchange of opinions and view points have in many instances lead to consensus. The representatives of concerned citizen and neighborhood groups, builders, developers, the real estate industry, the design and architectural community, and the assessment authorities have all participated in this study and deserve credit for its outcome.

Perhaps the most deserving group for acknowledgement are the citizens of Vancouver. We have had the privilege of reviewing a large quantity of helpful, reasoned commentary by citizens concerned about the quality of the City's family environments. We have met many citizens in the course of our field research and we hope that the content of this report will assist Vancouverites in framing the future for families in the City.

R. E. Hulbert, MAIBC, OAA, FRAIC, AIA, RCA
THE HULBERT GROUP B. C. LTD.

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EXECUTIVE SUMMARY

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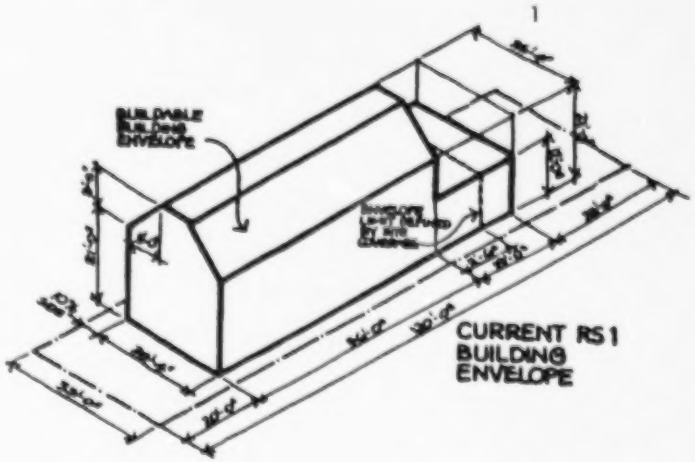
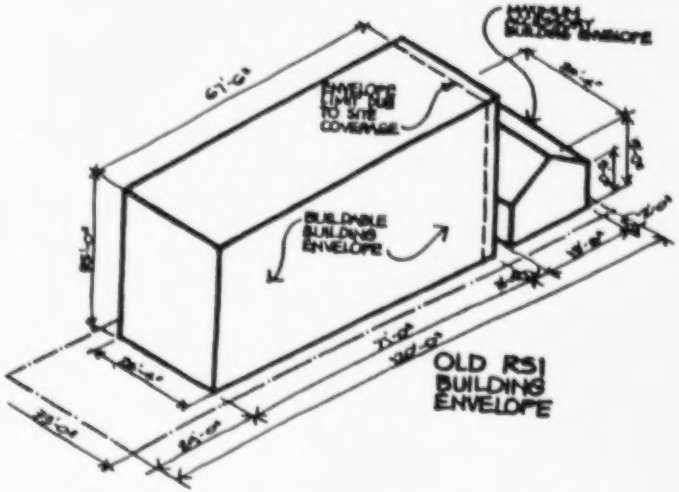
EXECUTIVE SUMMARY

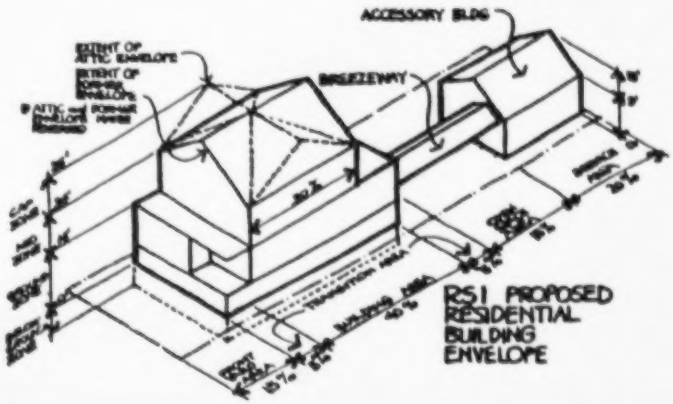
In early July of 1987, the City of Vancouver Planning Department retained the services of The Hulbert Group B.C. Ltd. to assist in their review of RS-1 Zoning Regulations.

The objectives of this review were as follows:

> "To prepare and present changes to the floor space ratio and site coverage regulations (and any consequential amendments) to the RS-1, single family district schedule to improve the neighborliness of houses built in RS-1 areas."
>
> "Neighborhood character and livability: to improve the fit of new houses into RS-1 neighborhoods by making them more compatible with neighbors and thereby contributing to a positive residential neighborhood character."
>
> "Housing choice: to ensure regulations provide sufficient flexibility for existing houses to be renovated and new houses to be constructed which meet the needs of future and present residents."
>
> "Efficiency: to minimize costs of new development to City services; including assuring that regulations are sufficient to implement and enforce."
>
> "To enhance qualities present residents seek in their home neighborhood while also providing for new needs by expanding housing choice and encouraging more efficient use of city lands and services by permitting some increases in housing capacity through a process of public education and consultation."







EXECUTIVE SUMMARY Cont'd.

The key concepts encompassed in these statements we took to be the following:

- Improve neighborliness
- Improve the fit of new houses
- Make new houses more compatible
- Provide flexibility
- Enhance renovation and retention of existing stock
- Develop efficient regulations to implement

By referring to our own experience as residential planners and urban designers, by meeting with and interviewing interest groups and by conducting field examinations of the best and the worst situations, we developed family livability qualities which all interested parties generally agreed were applicable to family housing areas in Vancouver. In summary, these family livability criteria are:

- Privacy/territoriality: the opportunity to quietly enjoy one's clearly defined private domain.
- Identity/individuality: the opportunity to maintain one's individuality and express one's personal identity, i.e., "every man's home is his castle".
- Comfort/health/convenience: the opportunity to enjoy one's home without undue noise, pollution, or other negative environmental impacts.
- Security/safety: the opportunity to live in an environment safe for the entire family.
- Human interaction: the opportunity to engage in social activity in a variety of ways, including inviting visitors into the home, chatting over the back fence, hailing passers by on the street, etc.
- Interaction with the physical environment: the opportunity to enjoy sunlight, open space, landscape, views, etc.

EXECUTIVE SUMMARY Cont'd

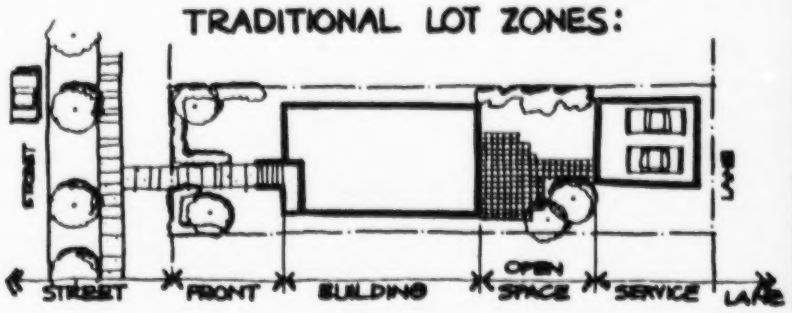
In evaluating traditional and newer housing forms against these family livability qualities, we found many of the newer housing forms wanting. Recognizing a changing society's demands for more space differently disposed then in traditional Vancouver housing forms, we searched for a reasonable compromise between the old and the new. Our search lead to these key realizations:

1) The traditional lot arrangement of front yard, house, rear yard, and parking on the lane provides a superior living quality from the point of view of virtually all of the family living qualities described above.

2) Careful study of the building envelope would permit the construction of houses as large or even larger than those currently being developed, but with construction disposed in a more neighborly fashion.

3) The key to encouraging renovation of old stock while permitting a variety of new house forms to occur lies in the careful control of a home's volume.

4) We should look to the history of zoning in Vancouver for guidance as to appropriate zoning revisions for the future.



SUMMARY RECOMMENDATIONS

Based on the above discoveries and our subsequent detailed analysis of neighborliness, bulk, housing form and history in Vancouver, this report makes the following recommendations for changes to Vancouver's RS-1 district schedule with respect to small lots (30 to 50 ft. in width).

EXECUTIVE SUMMARY Cont'd

1) REQUIRE THE SETTING ASIDE OF A MANDATORY OPEN SPACE AREA (I.E. BACK YARD) BETWEEN THE REAR OF EACH HOME AND ITS LANE OR REAR PROPERTY LINE.

2) ENCOURAGE THE PLACEMENT OF PARKING IN THE AREA IMMEDIATELY ADJACENT THE REAR LANE OR PROPERTY LINE BY PENALIZING THE PLACEMENT OF ENCLOSED PARKING ELSEWHERE ON THE LOT AND PROHIBITING IT FROM THE REAR OPEN SPACE AREA.

3) TO ALLOW FOR TRANSITION BETWEEN THE FRONT AND REAR YARDS AND THE HOME IN ORDER TO ENCOURAGE THE RE INTRODUCTION OF PORCH ELEMENTS/BAY WINDOWS/SUN ROOMS AND OTHER HUMAN SCALE PROJECTIONS LIKE THOSE FOUND ON TRADITIONAL VANCOUVER HOMES.

4) REDUCE THE BULKINESS OF BUILDINGS AT UPPER FLOORS BY REDUCING THE ALLOWABLE BUILDING ENVELOPE IN FAVOUR OF AN INCREASED OPEN SPACE AREA AT UPPER LEVELS.

5) ALLOW THE REINTRODUCTION OF VANCOUVER'S TRADITIONAL 35 FT. HEIGHT LIMIT BUT THEN SHAPE THE UPPER REACHES OF THE BUILDING ENVELOPE IN ORDER THAT NON TRADITIONAL ROOF FORMS SUCH AS TALL BOXES WOULD BE PROHIBITED AND THAT THE QUANTITY AND DISPOSITION OF GABLES AND DORMERS WOULD BE REASONABLY CONTROLLED.

6) ENCOURAGE THE PLACEMENT OF SOME OF THE BUILDING'S BULK IN BASEMENT AREAS BY ALLOWING FOR THE CONSTRUCTION OF SOME ADDITIONAL SPACE ON A LOT WHERE AN EQUAL OR GREATER AMOUNT OF SPACE IS PLACED IN A BASEMENT WHICH IS SUBSTANTIALLY BELOW GRADE.

7) ENCOURAGE REASONABLE DIVERSITY AND FLEXIBILITY IN HOUSE FORMS IN THIS CITY, AND TO ENSURE THAT HOMES DO NOT EXPAND IN VOLUME TO FILL THE OUTER REACHES OF THE REVISED ENVELOPE WE HAVE DESCRIBED, A CAP OF APPROXIMATELY 80% ON THE AMOUNT OF THE ABOVE GRADE BULK ENVELOPE VOLUME WHICH CAN BE FILLED BY ANY PROPOSED DESIGN. THE PERCENTAGE OF THIS CAP SHOULD BE REVIEWED OVER A TRANSITIONAL PERIOD, WITH MINOR ADJUSTMENTS BEING MADE AS NECESSARY.

EXECUTIVE SUMMARY Cont'd

We predict that the worst possible outcome of the above noted revisions will be a reduction in the height and length of the recent Vancouver special plan of approximately 25%. Generally, we predict that the above noted revisions will:

- foster the retention and renovation of existing housing stock.
- encourage the design of a variety of new housing forms ranging from two storeys on slab to two storeys plus basement to 2 1/2 storeys on slab or on basement, with many of these forms appearing much more like traditional Vancouver homes than has been the case heretofore.
- preserve for posterity the traditional rear yard open space amenity which has characterised Vancouver's family residential developments.
- result in more neighborly housing which maintains or enhances the traditional qualities associated with family living.

METHODOLOGY FOR REVIEW

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METHODOLOGY FOR REVIEW

To arrive at useful recommendations within a limited time frame, we proceeded with an accelerated review, analysis and synthesis program consisting of these basic elements:

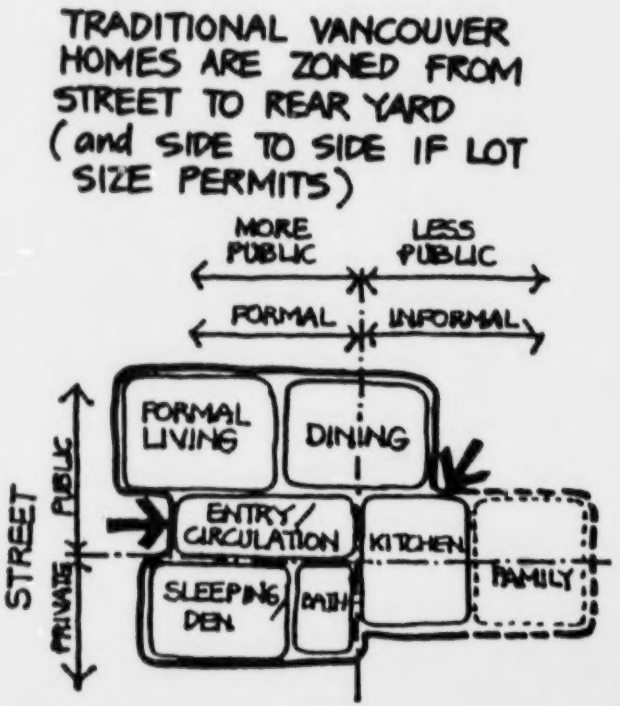
1) ESTABLISH WITH REFERENCE TO HISTORY, PRECEDENT AND CONVENTION THE QUALITATIVE EXPECTATIONS FOR FAMILY LIVING.

We discovered that by studying the zoning history of family neighborhoods in Vancouver, conversing with old time builders and established residents and referring to our own previous academic research and experience as residential architects, we were able to establish expectations for family living in Vancouver which were confirmed by established neighbors, real estate people, city planning staff and politicians.

2) TRANSLATE THESE EXPECTATIONS INTO BALANCED ZONING CRITERIA FOR FAMILY LIVING

We analyzed the sometimes conflicting expectations for family living of the various interest groups and made judgments about the relative merits of these expectations. We eliminated some expectations as being unrealistic and counter productive to family living in the city. An example in this category was the suggestion to arbitrarily down zone floor space and site coverage to levels which our research clearly indicated could not produce family housing approaching the demands of the contemporary market place. We eliminated criteria which we judged to be short sighted. An example in this category was the builders' insistence that garages be directly adjacent to homes for convenience and security. We judged that placement of parking functions in what was traditionally the rear yard would forever preclude the possibility of other forms of activity or development in that rear yard.

Having eliminated the extremes in favour of balanced criteria for family living, we were ready for the next phase of our review.



3) TEST THE CRITERIA FOR "FIT" FOR THE EXISTING NEIGHBORHOODS AND WITH OCCUPANT AND MARKET PLACE EXPECTATIONS

We conducted a series of review sessions with city staff, builders and designers, established residents and real estate personnel. At each of these sessions we translated our draft criteria into a series of "What if"? statements. For Example:

> "What if we reduce the size of mandatory front yards slightly in order to increase the size of rear yards?"

The reaction to our draft proposals was overwhelmingly positive, with only one proposal being eliminated due to clear disapproval by a majority of interested parties. Significantly, a number of proposals which might have been viewed negatively out of context were endorsed when viewed in light of an overall improvement in the "fit" of new zoning with existing neighborhoods. Subsequent to this testing stage we embarked on the fourth phase of this study.

4) REFINE THE CRITERIA INTO POSITIVE RECOMMENDATIONS FOR CHANGES TO THE RS-1 ZONING SCHEDULE

This report represents our final recommendations resulting from refinements to our early draft proposals. Our final pre-report presentation of 95% complete proposals resulted in very positive endorsement not only from established residents, but also from builders and design professionals. The only nay sayers were the real estate industry representatives who seemed hesitant to consider any compromises or changes to the status quo.

ANALYSIS OF ISSUES

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ANALYSIS OF ISSUES

The first round of meetings with politicians, staff, residents, builders, architects, designers and real estate personnel was for the purpose of flushing out all the issues for consideration. Naturally, there was a wide variance as to issues and those issues for one interest group were often considered inconsequential by others.

It is useful to summarize and analyze the real issues in the RS-1 debates by referencing to the key concepts included in the statement of objectives of the review contained in the executive summary. These key concepts and the issues analysis that goes with them are as follows:

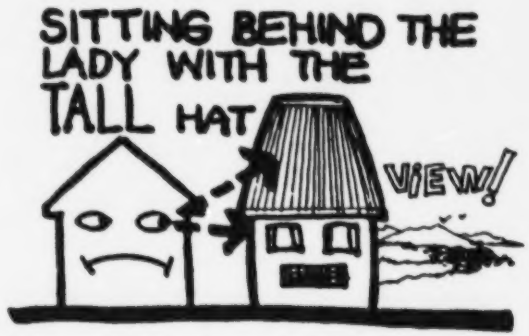
IMPROVED NEIGHBORLINESS

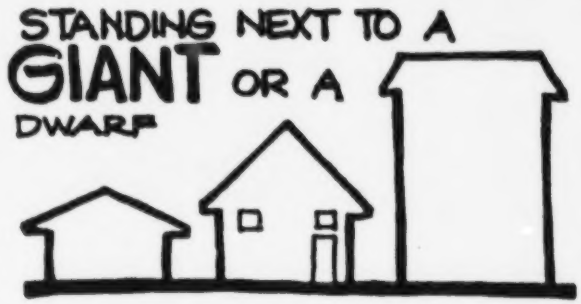
Representatives of the house building industry felt that neighborliness was a non issue, a "red herring" raised by the disenchanted few. Similarly, the real estate sales industry had a laissez faire attitude towards neighborliness, feeling that every individual has the right to develop relations (with the neighborhood) as he or she wishes.

Conversely, residents in neighborhoods being affected by a large amount of new construction felt strongly that the new construction was unneighborly in a number of respects. Staff and politicians generally supported this view point.

On balance, we tend to support the viewpoint of the residents to the affect that much new construction is unneighborly. Typical problems encountered with new construction under the current and previous RS-1 zoning include the following:

- New construction often blocks views of existing buildings, in many instances in a very arbitrary and unnecessary way.
- New construction is often much wider and deeper than existing construction, even when the existing construction is fairly substantial in nature.
- New construction is often much taller than its neighbors.
- Much new construction has sacrificed rear yards in favour of extended buildings and parking pads.
- The construction of second level decks on the extended lower floors of new construction leads to a severe loss of privacy for neighbors as well as considerable overshadowing of their rear yards.
- Intrusions such as doorways and fire places in side yards which are already minimal in size further contribute to those side yards becoming totally unuseable and in many cases impassable spaces.





Analysis and discussion of these complaints led to a number of recommendations agreeable to the residents for qualitative and quantitative ways to handle their problems. These recommendations included the following:

RESIDENTS' RECOMMENDATIONS

1) Encourage new construction to be more similar to older construction, be it tall or short, thin or wide.

2) Encourage new construction to put some of its bulk into the basement, even if bonuses are offered to achieve this.

3) Clarify the methods of calculating building height to make them more sensible to residents who are concerned about their neighbors' height.

4) Eliminate intrusions into already minimal side yards.

5) Reduce excessive onsite parking, even if street parking is increased.

6) Preserve and protect gardens in rear yard areas and keep them visible.

7) Try to encourage the resurrection of lanes as active outdoor areas rather than service spaces only.

8) Make a gradual transition from existing to newer construction, be it in side yards, height, materials, character, etc.

FACILITATE PORCHES AND STAIRS AS VISITOR CONTROL AREAS

PROVIDING FLEXIBILITY

As a foil to the concerns and input of established residents, new residents, builders and real estate people were concerned that an over zealous application of new and potential restrictive regulations would have a disastrous impact on new housing in the city. In support of their concerns, they noted a number of discouraging aspects of the existing and older RS-1 zoning, including the following:

1) Current RS-1 zoning discourages basements, porches and attics. Since porches and attics are assumed to be future infill spaces, they are always counted in FSR whether they are intended to be built in or not. Basements reduce a building's bulk above grade, but since there is no FSR bonus for their construction, nobody builds them anymore.

2) The current RS-1 zoning schedule has lead builders to reduce main floor suites from approximately 1400 sq. ft. to approximately 1200 sq. ft., resulting in a house form which is very awkward for single level living. The value of smaller lots has been drastically reduced as the lower threshold of livability is exceeded.

3) The 21 foot eave height is calculated in a fashion which further discourages basement construction.

4) The new zoning has had the affect of depressing houses into grade to accommodate the 21 foot eave height. However, people strongly resist descending from the street to their front doors, and the useability and privacy of a front yard is essentially lost in such an arrangement.

RETAINING EXISTING STOCK

The adoption of the current RS-1 zoning schedule led to thousands of older city homes becoming non conforming as to zoning. This has resulting in greatly increased representations at the Board of Variance, a higher incidence of demolition of existing stock in the face of redevelopment obstacles and the production of a large number of inefficient and annoying renovations to fit within the new housing envelope. The principal villain here is the new envelope's definition of a sloping top which favours gables in one direction only. As much as half of the city's older housing stock has a gable direction contrary to that favored by the zoning, hence any vertical extension becomes difficult, much more expensive and often impossible to accommodate.

DETAILED RECOMMENDATIONS

THE HUBERT GROUP
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DETAILED RECOMMENDATIONS

The following recommendations represent the summation of our work on the small RS-1 lots. These recommendations integrate our appreciation of history and the precedent setting nature of zoning with the family living expectations developed jointly with and confirmed by the interest groups. Our draft recommendations have been reviewed with all interested parties and the following recommendations incorporate the feedback from these multiple reviews.

For the sake of simplicity, the recommendations are presented in the same order as the RS-1 district schedule with recommendations relating to other sections of the zoning by-law such as definitions and fence by-laws being inserted in the appropriate places.

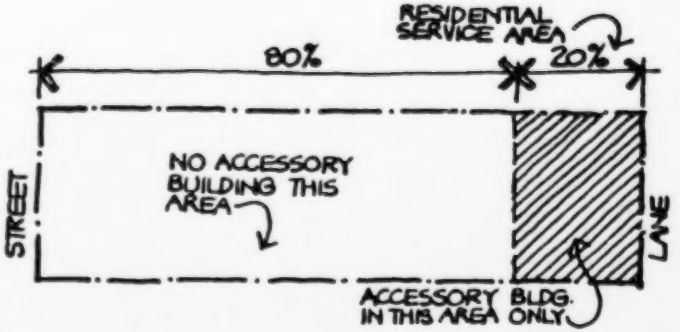
RECOMMENDATION NUMBER 1

RESTRICT THE LOCATION OF ACCESSORY BUILDINGS TO THE RESIDENTIAL SERVICE AREA WITHIN THE 20% OF LOT DEPTH IMMEDIATELY ADJACENT TO THE LANE AND OR REAR PROPERTY LINE.

FOR SHALLOWER LOTS, ALLOW THE RESIDENTIAL SERVICE AREA TO BE A MINIMUM OF 22 FT. DEEP. FOR DEEPER LOTS, PLACE AN UPPER LIMIT OF 30 FEET IN DEPTH.

Discussion:

This recommendation follows the Vancouver tradition of placing sheds and parking garages adjacent the lane. It insures that such buildings are not placed so as to effectively fill up the adjacent rear yard area. Placing absolute limits on the depth of this area avoids the situation where owners of short lots cannot build an accessory building large enough to accept a car. It also limits the extension of accessory buildings into the rear yard area of deeper lots.

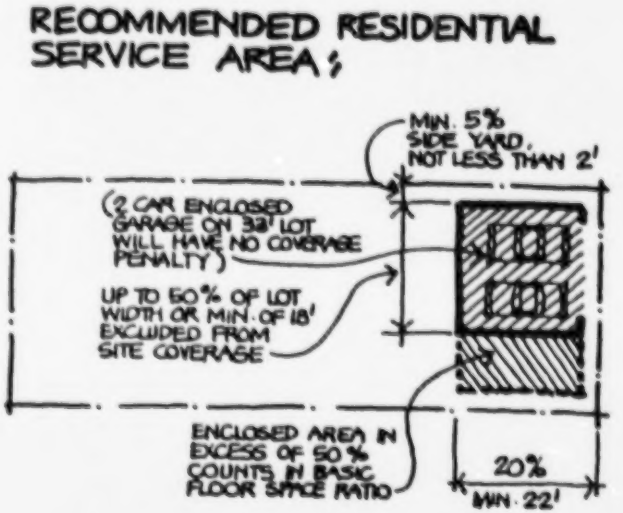


RECOMMENDATION NUMBER 2

CONTROL THE PROLIFERATION OF ACCESSORY BUILDINGS IN THE RESIDENTIAL SERVICE AREA BY INCLUDING THE SITE COVERAGE AND FLOOR SPACE OF ACCESSORY BUILDINGS INTO THE ALLOWABLE FLOOR SPACE AND SITE COVERAGE FOR THE PRINCIPAL BUILDING WHERE THE AREA OF THE ACCESSORY BUILDING EXCEEDS THE GREATER OF 10% OF THE LOT AREA OR OF 400 SQ. FT.

Discussion:

There has been considerable complaint about accessory buildings completely filling the space adjacent to the lane. This recommendation will encourage up to a 2 car garage on sites 32 feet or wider, but will penalize the construction of accessory buildings which cover more than approximately 50% of the width of a lot. This penalty will also encourage the preservation of an area adjacent to the enclosed garage for other service functions, be they uncovered surface parking, refuse storage, or as in many traditional arrangements, an extension of the rear yard area right back to the lane.


RECOMMENDED RESIDENTIAL SERVICE AREA;
MIN. 5% SIDE YARD, NOT LESS THAN 2'
(2 CAR ENCLOSED GARAGE ON 32' LOT WILL HAVE NO COVERAGE PENALTY)
UP TO 50% OF LOT WIDTH OR MIN. OF 18' EXCLUDED FROM SITE COVERAGE
ENCLOSED AREA IN EXCESS OF 50% COUNTS IN BASIC FLOOR SPACE RATIO
20%
MIN. 22'

RECOMMENDATION NUMBER 3

CONDUCT FURTHER STUDY INTO THE REQUIREMENTS FOR SMALL AREA LOTS (LESS THAN 3600 SQ. FT.) AND SMALL WIDTH LOTS (LESS THAN 32 FEET)

Discussion:

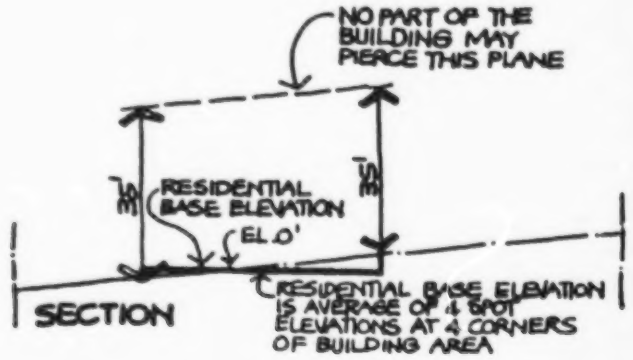
The current small lot guidelines were widely criticized by designers and builders as being too restrictive and not allowing for reasonable construction. We believe that the recommendations for larger lots will be applicable with some modifications to the smaller lot situations. The fine tuning of the small lot requirements is beyond the scope of the current study.

RECOMMENDATION NUMBER 4

HEIGHT: LIMIT THE HEIGHT OF A PRINCIPAL BUILDING TO WITHIN A PLANE LOCATED 35 FEET ABOVE THE GROUND PLANE DEFINED BY THE FOUR CORNERS OF THE RESIDENTIAL BUILDING AREA.

Discussion:

This recommendation involves going back to the height limit which has been in place for all but one of the past 60 years in Vancouver. No portion of a building with the exception of the usual allowed projection such as antennaes will be permitted to extend more than 35 feet above the ground directly below it. By referencing the 35 ft. limit to a ground plane defined by the four corners of the residential building area, the height limit really will be 35 feet above the ground at any point in the building area.

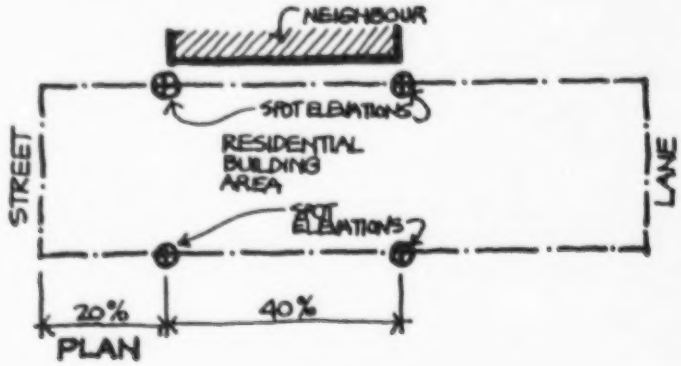

NO PART OF THE BUILDING MAY PIERCE THIS PLANE
35'
RESIDENTIAL BASE ELEVATION
EL.0'
SECTION
RESIDENTIAL BASE ELEVATION IS AVERAGE OF 4 SPOT ELEVATIONS AT 4 CORNERS OF BUILDING AREA

RECOMMENDATION NUMBER 5

CALCULATION OF GROUND LEVEL: ESTABLISH THE RESIDENTIAL BASE ELEVATION AS A HYPOTHETICAL PLANE IN THE RESIDENTIAL BUILDING AREA CALCULATED AS THE AVERAGE OF THE FOUR CORNER POINTS OF THE RESIDENTIAL BUILDING AREA.

Discussion:

All parties have complained about calculations of building height as related to grade. They are too complex and often produce results which are inappropriate. By calculating a hypothetical base elevation as the simple average of the four corners of the zone within which the principal building will occur, calculations are greatly simplified. Since the residential building whose four corners are averaged will be generally adjacent to existing homes on either side, the residential base elevation resulting from this calculation will tend to be the average between the base elevations that would be calculated for the neighbors on either side. This should eleminate the kind of anomalies which result from lots which steeply rise or drop off at one extremity.

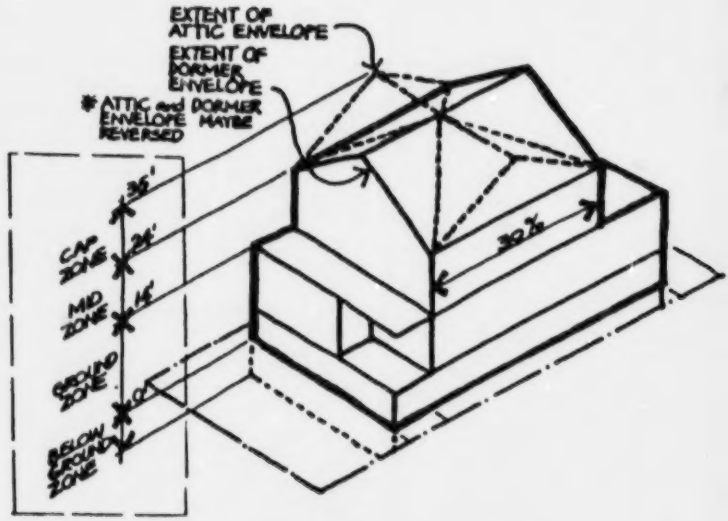


RECOMMENDATION NUMBER 6

SUBDIVIDE THE 35 FOOT HEIGHT ENVELOPE INTO FOUR ZONES, EACH WITH DIFFERENT ALLOWABLE SITE COVERAGES WITHIN THE RESIDENTIAL BUILDING AREA.

Discussion:

The legal forms of construction which occur in RS-1 zones range from single storey bungalows on grade through to 2 1/2 storey plus basement homes. Each floor in a home has different characteristics, different space requirements and different impacts upon the building site and the neighbors. For this reason, we recommend that zones be created to control development at various elevations above and below ground.



RECOMMENDATION NUMBER 7

ESTABLISH A BELOW GROUND ZONE TO INCLUDE ALL DEVELOPMENT BELOW THE RESIDENTIAL BASE ELEVATION

Discussion:

Until the zoning changes which occurred in the mid 70's, basements were common in Vancouver, although they had been steadily rising closer to (or evan at) grade over the preceding years. The current RS-1 zoning in combination with the sewer connection depth policy makes basements in most instances virtually impossible to construct. Yet basements provide substantial useful space, in a location which does not contribute substantially to a buildings' bulk.

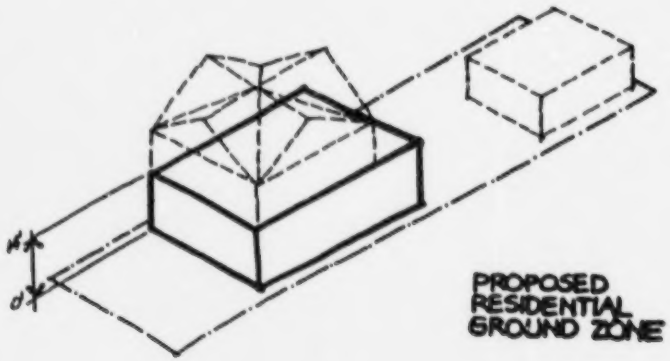
Sewer connection depths tend to limit the depth of new basement floors to 4 or 5 feet below grade. Although we are not proposing bulk controls for the below ground zone, we believe that this zone should be identified and added into the schedule in the context of the other development zones in order that necessary controls may be established as required in the future.

RECOMMENDATION NUMBER 8

ESTABLISH A GROUND ZONE WITHIN THE FIRST 14 FEET ABOVE THE RESIDENTIAL BASE ELEVATION.

Discussion:

The first storey or storey and a half above grade has traditionally contained the main living floor and the exposed portion of the basement of a home. By defining a zone which would contain these floors, site coverage for the main living floor can be established independently of floors above. Also, since we will be recommending below that the site coverage within this ground zone should be greater than that of zones above, this recommendation effectively puts a limit on the heights of a volume space in the rear yard area. The 14 foot limit also allows for 1 1/2 storeys of conventional construction, facilitating split level arrangements within this zone.

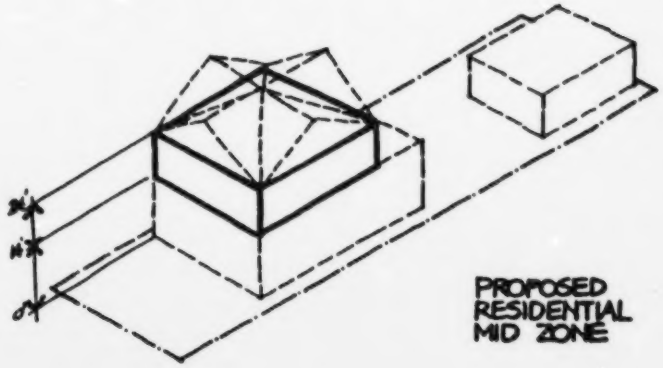


RECOMMENDATION NUMBER 9

ESTABLISH A MID ZONE IN THE RESIDENTIAL BUILDING AREA LOCATED BETWEEN 14 AND 24 FEET ABOVE THE RESIDENTIAL BASE ELEVATION.

Discussion:

Only in recent times has the floor area which generally falls in this zone come to be a main living floor with an accompanying requirement for a large floor space. We found this large floor plate in the air to be one of the chief problems of newer forms of construction. By reducing the allowable depth of construction in this zone to 10% less than the ground zone below (12 feet less on a 120 foot deep lot), we believe that a generous sleeping level or more compact living level will be easily accommodated.



RECOMMENDATION NUMBER 10

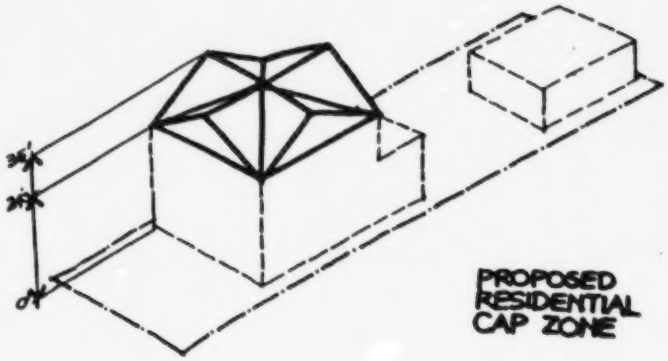
ESTABLISH A CAP ZONE FROM 24 FEET ABOVE THE RESIDENTIAL BASE ELEVATION TO THE UNDERSIDE OF THE PLANE DEFINING THE 35 FOOT MAXIMUM HEIGHT LIMIT. WITHIN THIS ZONE, RESTRICT CONSTRUCTED FLOOR AREA TO A MAXIMUM OF 50% OF THE FLOOR NEXT BELOW (THE OLD HALF STOREY DEFINITION). FACILITATE HALF STOREY CONSTRUCTION WITH SLOPING ROOFS AND DORMERS, BUT DEFINE THE 35 FOOT HEIGHT LIMIT WITH SLOPING ROOF PLANES TO PREVENT NON TRADITIONAL BOXY ROOF FORMS.

Discussion:

In many ways this is the most critical residential construction zone. If a building is going to appear too high or too bulky, it will likely appear so as a result of what happens in this top area.

Reiterating the half storey rule to will result in construction in this area being generally limited to bedrooms, attic spaces, etc. The delineation of sloping roof volumes will encourage traditional roof forms and further reduce the apparent bulk construction in this zone. The imposition of the 35 foot cap sloped to follow the ground plane of the ground area will further control development in this zone.

Further, the envelope configuration in this zone allows for adding dormers on older homes thus reducing the desire to demolish a significant portion of existing housing stock.



RECOMMENDATION NUMBER 11

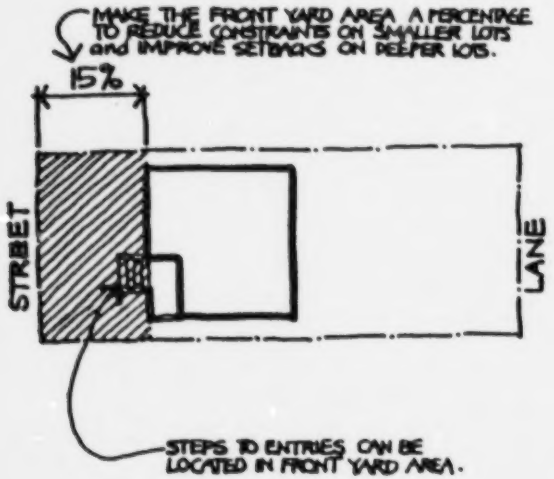
FRONT YARD: REPLACE THE CONCEPT OF FRONT YARD WITH THE CONCEPT OF A RESIDENTIAL FRONT YARD AREA, DEFINED AS 15% OF THE LOT DEPTH IMMEDIATELY ADJACENT TO THE FRONT STREET PROPERTY LINE.

Discussion:

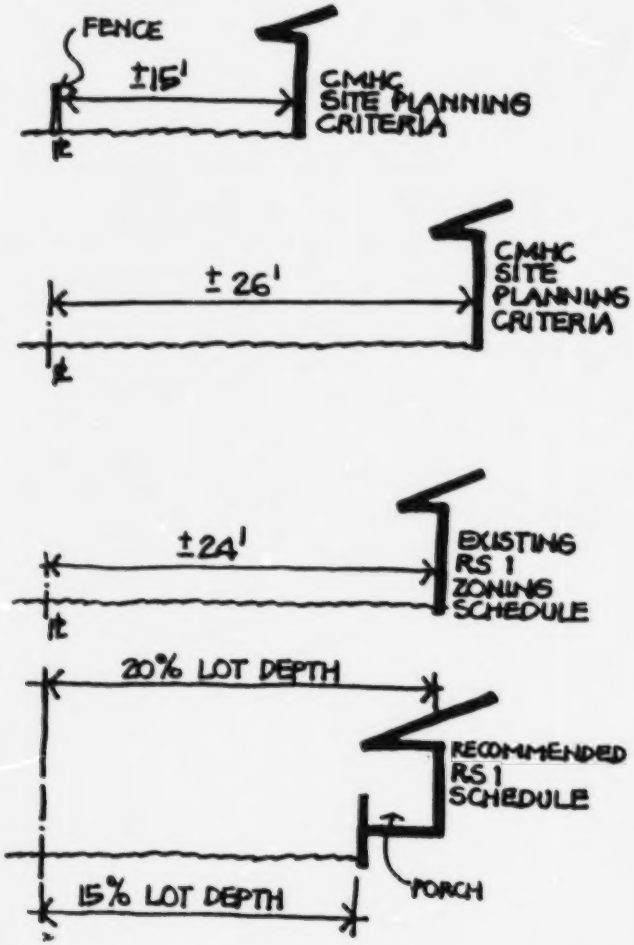
While the traditional concept of a front yard space between the principal building and the street was important to all interested parties, the general consensus was that existing 24 foot front yard (20 to 28 feet with averaging) was larger than modern life styles required, especially if decreasing the front yard area would result in an increase backyard. The minimum size of this front yard at 15% is based upon the precedents of other housing authorities such as CMHC, the perceptions of the various parties as to what constitutes a minimum front yard, as well as by reference to academic studies on the spatial requirements for public-to-private activity separations.

It is significant to note that the only construction encroachments into this front yard area would be steps up to an entry porch in the building area behind.

RECOMMENDED RESIDENTIAL FRONT YARD AREA AT GRADE;


MAKE THE FRONT YARD AREA A PERCENTAGE TO REDUCE CONSTRAINTS ON SMALLER LOTS and IMPROVE SETBACKS ON DEEPER LOTS.
15%
STREET
LANE
STEPS TO ENTRIES CAN BE LOCATED IN FRONT YARD AREA.

THE RECOMMENDED WIDTH OF THE RESIDENTIAL FRONT AREA DEPENDS UPON ITS TREATMENT;



RECOMMENDATION NUMBER 12

ESTABLISH A TRANSITION AREA BETWEEN THE FRONT YARD AREA AND THE PRINCIPAL BUILDING AREA, TO ACCOMMODATE LOWER LEVEL PORCHES AND BUILDING EXTENSIONS TO THE MAIN FLOOR LIVING AREAS. WITHIN THIS TRANSITION ZONE, CALCULATED AS 5% OF LOT DEPTH, PERMIT THE CONSTRUCTION OF A COVERED BUT UNENCLOSED PORCH EXTENDING UP TO THE FULL WIDTH OF THE PRINCIPAL BUILDING WITH UP TO 50% OF THE LOT WIDTH IN THIS AREA TO BE INFILLED WITH HABITABLE SPACE. INCLUDE HABITABLE SPACE IN THIS AREA WITHIN FSR AND COVERAGE CALCULATIONS. EXCLUDE COVERED PORCH AREA FROM THESE CALCULATIONS. LIMIT THE HEIGHT OF CONSTRUCTION IN THIS TRANSITIONAL AREA TO THE GROUND ZONE (ZERO TO 14 FEET).

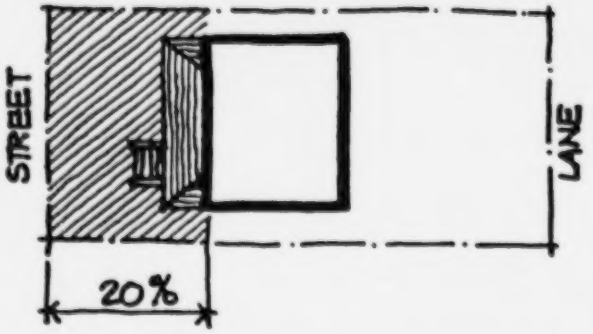
Discussion:

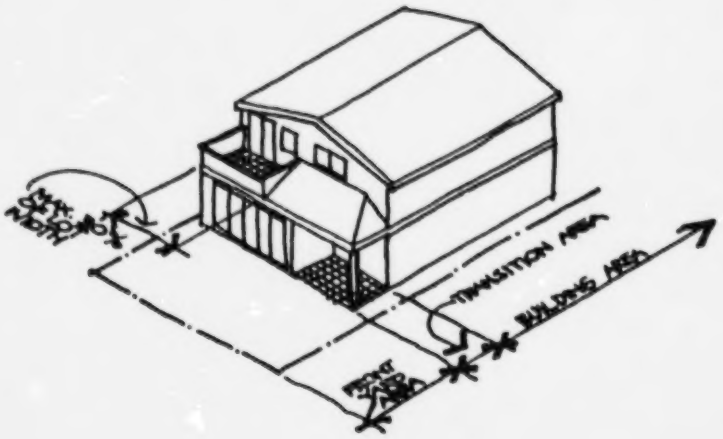
Many parties to this study lamented the disappearance of the covered porch in Vancouver. We also noted in discussions with established residents that in the case of two storey construction, a one storey roofed extension at the front of the building went a long way towards achieving a transition between new and existing lower construction.

Many existing Vancouver homes have full front covered porches which are gradually being closed in because they count as floor space anyway. This recommendation would tend to discourage that infill activity. Conversely, permitting up to 50% of a lot width to be infilled in this transitional area will permit a reasonable extension of main floor living areas while putting an absolute limit on the size of that extension into the front yard. This will also allow of people who do not build to full FSR initially, to come back at a later date and legally infill a portion of their front porch as their family expands.

Limiting the construction height in the transition area to the ground zone will ensure that it remains as a transitional element rather than becoming simply a 2 or 2 1/2 storey wall extending that much further into the front yard.

RECOMMENDED RESIDENTIAL FRONT AREA ABOVE GRADE:





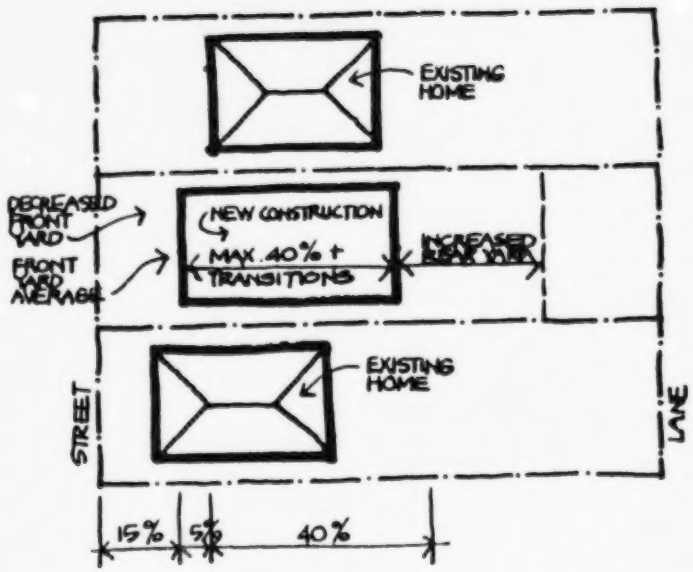
RECOMMENDATION NUMBER 13

AVERAGE: PERMIT FRONT YARD AREA AVERAGING AT THE APPLICANTS DISCRETION, BUT LIMIT THE RESIDENTIAL BUILDING AREA IN ANY CASE TO NO MORE THAN 40% OF LOT DEPTH.

Discussion:

In many parts of Vancouver, existing front yard set backs are somewhat less than 20% of lot depth, in many cases as little as 10% of lot depth. We recommend permitting front yard averaging in the belief that it will be used in these instances to line up new and existing construction. However, we recommend that the overall depth of the residential building area not be increased, so that any decrease in the front yard area due to averaging is effectively added into an increased rear yard area.

By permitting averaging at the applicant's discretion, situations where some existing construction is well back from the traditional setback will not penalize new construction, making rear yards effectively impossible to preserve.

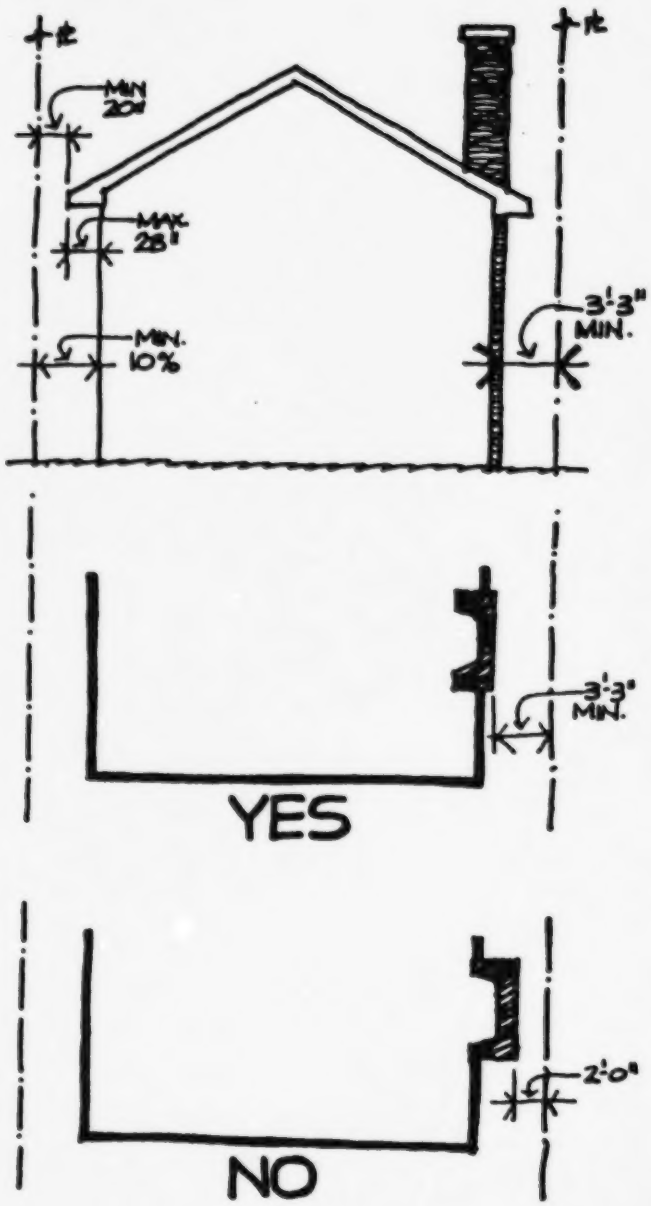


RECOMMENDATION NUMBER 14

SIDE YARDS: RETAIN THE EXISTING MINIMUM 10% SIDE YARD REQUIREMENT UP TO AND INCLUDING LOTS OF 50 FEET IN WIDTH. RETAIN THE EXISTING ALLOWABLE PROJECTIONS INTO SIDE YARDS, BUT PLACE AN ABSOLUTE LIMIT ON THE REDUCTION OF SIDE YARDS IN THE GROUND ZONE TO A MINIMUM OF 3.3 FEET. IN THE MID ZONE AND CAP ZONE, ALLOW PROJECTIONS AS MEASURED TO THEIR OUTER EXTREMITY TO A MAXIMUM OF 28 INCHES, SO LONG AS A MINIMUM SEPARATION OF 20 INCHES REMAINS TO THE PROPERTY LINE.

Discussion:

The narrowness of side yards and smaller lots makes navigation through them quite difficult, particularly when there are fences separating neighbors. Also, the intrusion of elements like fire places into side yards is an annoyance, especially when they are used to camouflage illegal suite entry doors. Requiring a minimum of 3.3 foot side yard will either encourage provision of wider side yards on 33 ft. lots, or cause fire places to project into the adjacent rooms rather than out from them. The hiding or camouflaging aspect of these projections will also be eliminated.



RECOMMENDATION NUMBER 15

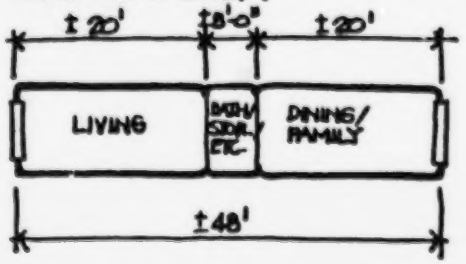
RESIDENTIAL BUILDING AREA: ADD THE CONCEPT OF A RESIDENTIAL BUILDING AREA DEFINED AS 40% OF THE LOT DEPTH BETWEEN THE RESIDENTIAL FRONT YARD TRANSITION AREA AND THE REAR OF THE SITE.

Discussion:

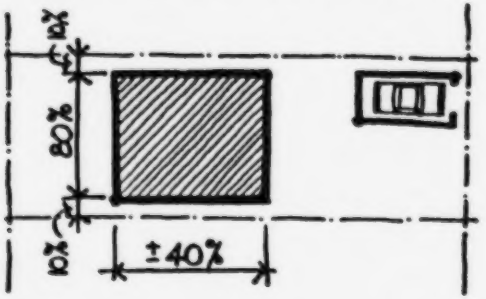
One of the main criticisms of narrow lot house forms is their extreme depth over a two storey height, measuring as much as 75 feet in some cases. Our recommendation would limit the length of the principal building area on a 120 foot deep lot plus the allowable extensions into the transition space in the front yard for a total maximum length of 54 feet deep on a 120 foot lot.

The 40% number is defensible in terms of reasonable room sizes in family homes and would provide a maximum living area floor of 1366 sq. ft. on a 33 x 120 lot. This is a significant figure as it approximates the 1400 sq. ft. which some builders have claimed as approaching the minimum requirement for single level living.

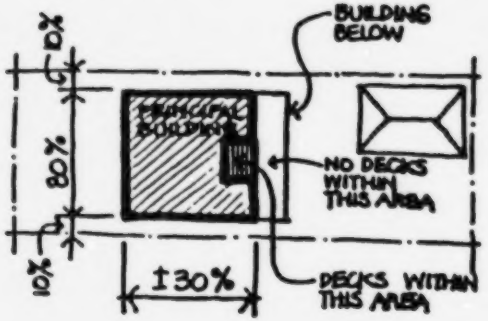
TYPICAL MAXIMUM PRINCIPAL HABITABLE ROOM DEPTHS WITH WINDOWS ONE SIDE ONLY:



RECOMMENDED RESIDENTIAL BUILDING AREA AT GRADE:



RECOMMENDED RESIDENTIAL BUILDING AREA ABOVE GRADE:



RECOMMENDATION NUMBER 16

OPEN SPACE TRANSITION AREA: ADD THE CONCEPT OF A RESIDENTIAL OPEN SPACE TRANSITION AREA DEFINED AS THE 5% OF LOT DEPTH BETWEEN THE RESIDENTIAL BUILDING AREA AND THE RESIDENTIAL OPEN SPACE AREA.

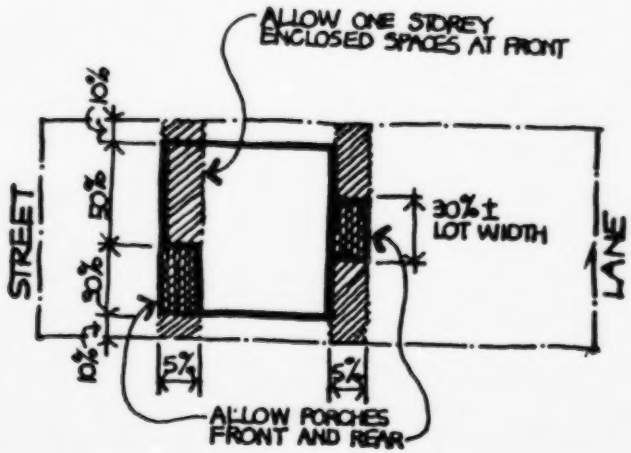
LIMIT THE ALLOWABLE CONSTRUCTION IN THIS TRANSITION AREA TO A COVERED BUT UNENCLOSED PORCH MEASURING A MAXIMUM OF 30% OF THE LOT WIDTH AND WHICH CAN BE LOCATED ANYWHERE WITHIN THE ALLOWABLE SIDE YARDS.

Discussion:

Vancouver's traditional homes often have a small back porch or deck area, which we felt appropriate to permit in our zoning recommendations.

Since rear yard porches are less visible than those in the front yard and therefore more susceptible to illegal enclosure, we recommend limiting the allowable width of porches in this zone to a maximum of 30%. In this way, should a porch be illegally closed in, it will at least represent a reduced intrusion in the open space areas of the lot.

RECOMMENDED RESIDENTIAL TRANSITION AREAS AT GRADE:



RECOMMENDATION NUMBER 17

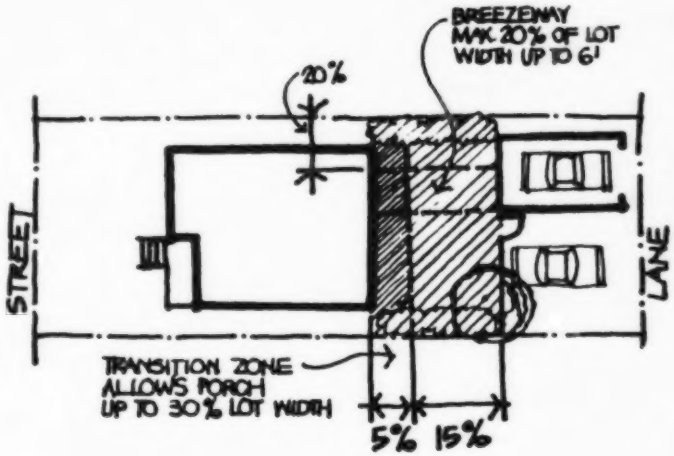
REAR YARD: REPLACE THE CONCEPT OF REAR YARD WITH THE CONCEPTS OF THE RESIDENTIAL OPEN SPACE AREA AND THE RESIDENTIAL SERVICE AREA. THE RESIDENTIAL OPEN SPACE AREA IS DEFINED AS THE 15% OF LOT DEPTH LOCATED BETWEEN THE RESIDENTIAL OPEN SPACE TRANSITION AREA AND THE RESIDENTIAL SERVICE AREA. THE RESIDENTIAL SERVICE IS DEFINED AS THE 20% OF LOT DEPTH (MINIMUM 22 FEET DEEP, MAXIMUM 30 FEET DEEP) LOCATED IMMEDIATELY ADJACENT TO THE LANE OR THE REAR PROPERTY LINE WHERE THERE IS NO LANE.

Discussion:

The backyard or rear areas of Vancouver's single family neighborhoods are by far the most contentious development areas on a typical lot. The vast majority of established resident complaints related to loss of privacy, over shadowing and over look from neighbors with construction in rear yards. The most violent reactions to draft change proposals were those relating to rear yard development.

Nevertheless, we have concluded that the concept of an essentially open space yard between the principal building and the lane or rear property line is essential to preserve for Vancouver's future residential development. Whereas the proposal to provide an open space does not preclude future development relating to aging population such as granny flats along the lane, construction in the open space area with parking access provided from the lane closes the door on future flexibility and incidentally creates a very poor quality of living space at the ground level.

RECOMMENDED RESIDENTIAL OPEN SPACE AREA AT GRADE:



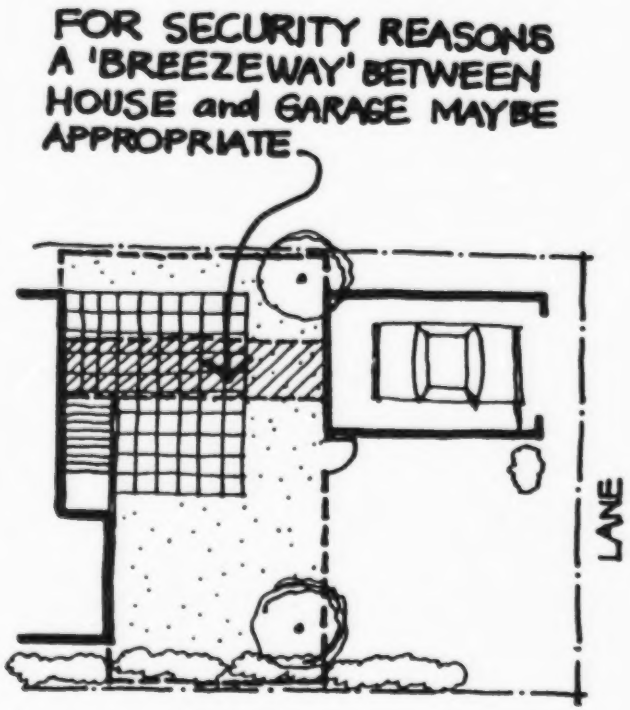
RECOMMENDATION NUMBER 18

PROHIBIT ENCLOSED CONSTRUCTION WITHIN THE RESIDENTIAL OPEN SPACE AREA, EXCEPT FOR A BREEZE WAY CONNECTION BETWEEN A PRINCIPAL BUILDING AND ACCESSORY BUILDINGS. THIS BREEZE WAY TO BE A MAXIMUM OF 20% OF LOT WIDTH TO A MAXIMUM OF 8 FEET WIDE, AND TO HAVE A MINIMUM 20% SIDE YARD. FURTHER, SUCH A BREEZEWAY TO HAVE A MAXIMUM, CEILING HEIGHT OF 8 FEET AND A MAXIMUM RIDGE HEIGHT OF 12 FEET.

Discussion:

One of the qualities associated with family living is safety and security. A real concern was expressed by a number of parties about the safety of residents encouraged by new zoning to walk from their garage through an open space to their home. Vancouver's rainy climate is also a consideration for convenience.

We strongly recommend that some form of cover which could be lit at night be permitted between accessory buildings and the principal building. By limiting the width of this connection, the usefulness of even an illegally enclosed space is minimal. Similarly, by doubling the required side yard adjacent this cover, some consideration is given to neighbors' concern about long walls.

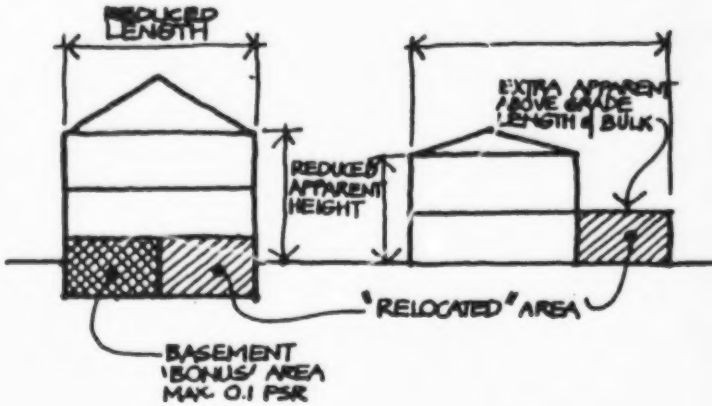


RECOMMENDATION NUMBER 19

FLOOR SPACE RATIO: LEAVE THE FLOOR SPACE RATIO FOR THE PRINCIPAL BUILDING ON LOTS BETWEEN 32 AND 50 FEET WIDE AND GREATER THAN 3600 SQ. FT. IN AREA AT 0.60, BUT WITH THE FOLLOWING BONUSES AND PENALTIES:

PENALIZE EXCESSIVE ACCESSORY BUILDING CONSTRUCTION AS NOTED ABOVE IN RECOMMENDATION NUMBER 20

BONUS BASEMENT SPACE CONSTRUCTION BY INCREASING ALLOWABLE FSR BY AN AMOUNT EQUAL TO 50% OF THE FSR CONSTRUCTED IN THE BELOW GROUND ZONE TO A MAXIMUM BONUS OF 0.1 FSR.


REDUCED LENGTH
REDUCED APPARENT HEIGHT
EXTRA APPARENT ABOVE GRADE LENGTH & BULK
"RELOCATED" AREA
BASEMENT "BONUS" AREA MAX. 0.1 FSR

Discussion:

Early in our study, we realized the benefits of placing some residential bulk below grade. However, existing zoning offers no benefits for doing so. The suggestion of bonusing basements was well received by established residents as a means of reducing above grade bulk. Furthermore, when this proposal was put to builders, they responded with a suggested "New Vancouver Special" which would be effectively 25% shorter and 25% lower than current Vancouver Special forms. (See House Forms Type I, Appendix 1). Alternatively, westside builders less concerned with maximizing floor areas on each floor indicated a basement bonus would spawn house forms which might be a full 2 1/2 storeys high, but which would be even shorter than the 40% of lot depth proposed in the ground zone. (See House Forms Type III, Appendix 1) In view of the general support for this concept and the indication that it would produce building forms substantially shorter and lower than are currently developing, we believe strongly that a bonus such as proposed would be a major bulk reducer.

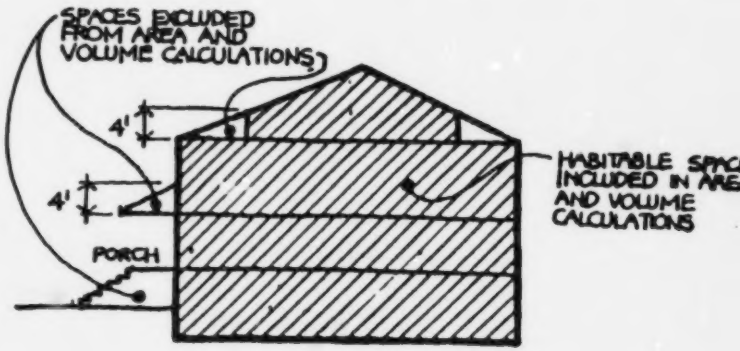
Should such a bonus be adopted, we would also recommend a 6 month to one year testing period after which the extent of the bonus could be re evaluated in the light of experience and public reaction.

RECOMMENDATION NUMBER 20

INCLUDE IN FLOOR SPACE CALCULATIONS AND VOLUME CALCULATIONS ALL SPACES WITH HEAD ROOM IN EXCESS OF 4 FEET, WHETHER OR NOT CURRENTLY ACCESSIBLE.

Discussion:

Currently, areas are only considered to be habitable if they are accessible by stairs. However, this has lead to some abuse with high ceiling areas constructed which are not accessed until after final approvals are granted. Conversely, there are a number of existing homes with high ceiling spaces not currently being used which might have their development capability somewhat reduced if these spaces were counted in floor space. On balance, we believe that excluding high volume spaces from floor space and volume calculations will further contribute to the construction of large bulk buildings, but should not have too much affect on older construction forms. At worst, this recommendation would tend to direct renovation of existing buildings towards existing high volume spaces rather than to new additions or other constructions which will increase bulk. As the newly proposed building envelope has greater latitude in the positioning of dormers, such vertical renovations should be much more feasible than has been the case heretofore.



RECOMMENDATION NUMBER 21

SITE COVERAGE: SET THE MAXIMUM ALLOWABLE SITE COVERAGE OF THE PRINCIPAL BUILDING DIFFERENTLY FOR EACH ZONE, AS FOLLOWS:

IN THE GROUND ZONE OR BELOW GROUND ZONE 35% MAXIMUM SITE COVERAGE.

IN THE MID ZONE, 25% MAXIMUM SITE COVERAGE. IN THE CAP ZONE THE LESSER OF 12 1/2% OR 1/2 OF THE MID ZONE.

IN ALL CASES, THE SITE COVERAGE MAY BE FURTHER REDUCED IF THE MAXIMUM BUILDING ENVELOPE IN THE ZONE IN QUESTION SO DICTATES.

Discussion:

The above recommendations coincides with the building envelope proposed elsewhere. The envelope is maximum at grade and reduces as the building goes up in the air. The half storey rule applies in the Cap Zone. Since the building envelope steps back at the mid zone from the front transition area in line with its traditional neighbors, the site coverage above grade will be smaller than would otherwise be the case.

RECOMMENDATION NUMBER 22

PROHIBIT THE CONSTRUCTION OF BALCONIES OUTSIDE OF THE MID ZONE ENVELOPE IN THE REAR OF A LOT

Discussion:

The revised building profile could result in a 10% (12 feet on 120 foot lot) flat roof at an elevation of 9 to 14 feet above the rear yard. To preserve neighbors' privacy, we recommend construction of balconies in this zone be prohibited. However, balconies could be constructed within the 30% Mid Zone envelope.

RECOMMENDATION NUMBER 23

VOLUME: LIMIT THE ABOVE GRADE HABITABLE VOLUME WHICH CAN BE FILLED BY A PARTICULAR DESIGN TO APPROXIMATELY 80% OF THE THEORETICAL BUILDING ENVELOPE.

Discussion:

Our studies have shown that over time, designs will fill the outer reaches of whatever the permissible envelope is, hence a maximization of bulk above grade. To eliminate the likelihood of this occurring, we propose that no design be permitted to fill more than 80% of the volume which it could theoretically fill. The slack would tend to favour variety and encourage designers and builders to fill their 80% quota in a more thoughtful way.

In practice, a matrix would be prepared by the City including allowable volume for any lot size. Designers submitting schemes would include volume calculations as they would for FSR.

TOPICS FOR FURTHER STUDY

TOPICS FOR FURTHER STUDY

The abbreviated time frame for this study has obviously prevented consideration of a number of special areas which should be addressed in the near future. Our recommendations for further study include the following:

1) Small Lots: When a final framework for RS-1 zoning has been established, the principles inherent in that framework should be applied to small lots, those lots less than 32 ft in width and 3600 sq. ft. in area which are currently governed by guidelines and conditional use applications. Our discussions with builders and with the other consultants involved in this study suggest that the principles developed in this study should be by and large applicable to those small lots, but special testing and evaluation would be appropriate.

2) Odd Lots: This study has not addressed the question of corner lots, double fronting or other similar odd lots in the city. As with the small lot considerations, these special situations should be studied separately with a view to adding them to the outright RS-1 schedule.

3) RS-1 Reference Booklet: This report is much too long, complex and comprehensive for the average lay person to understand and follow. It would be appropriate, once final proposals are adopted by Council through the public hearing process, to commission the preparation of a booklet for distribution to the lay and construction industry public to assist in their understanding of the new zoning. This booklet should preferably be prepared during the period in advance of formal change over to a new by-law so that full information is available immediately upon the enforcement date of the new schedule.

APPENDIX

THE HUBERT GROUP
ARCHITECTURE
PLANNING
COMMUNICATION

APPENDIX 1 — HOUSE FORMS

The following isometric sketches illustrate housing forms which may develop under the proposed recommendations of this report. In reviewing these sketches, please note the following:

a) All house forms include a breezeway connection to a garage as would be permitted. The positioning of this breezeway has been deliberately varied to indicate possibilities.

b) All illustrations include a front and a rear porch as would be permitted in the transitional zone.

3) All illustrations include a single storey or 1/2 storey extension in the ground zone which would be in addition to the main living level spaces.

d) To approximate typical development practices in the city, types 1, 2 and 3 illustrate low sloped roofs similar to those currently being built by developers. Type 4 illustrates a higher peak roof form using the half storey attic feature of the zoning. This house form would be more typically found on the west side, however, its similarity to older house forms throughout the city illustrates how our recommendations will accommodate existing house forms.

e) Type 1, the one storey plus basement home, represents feedback from builders as to the likely New Vancouver Special, or as they call it the New Popular Plan.

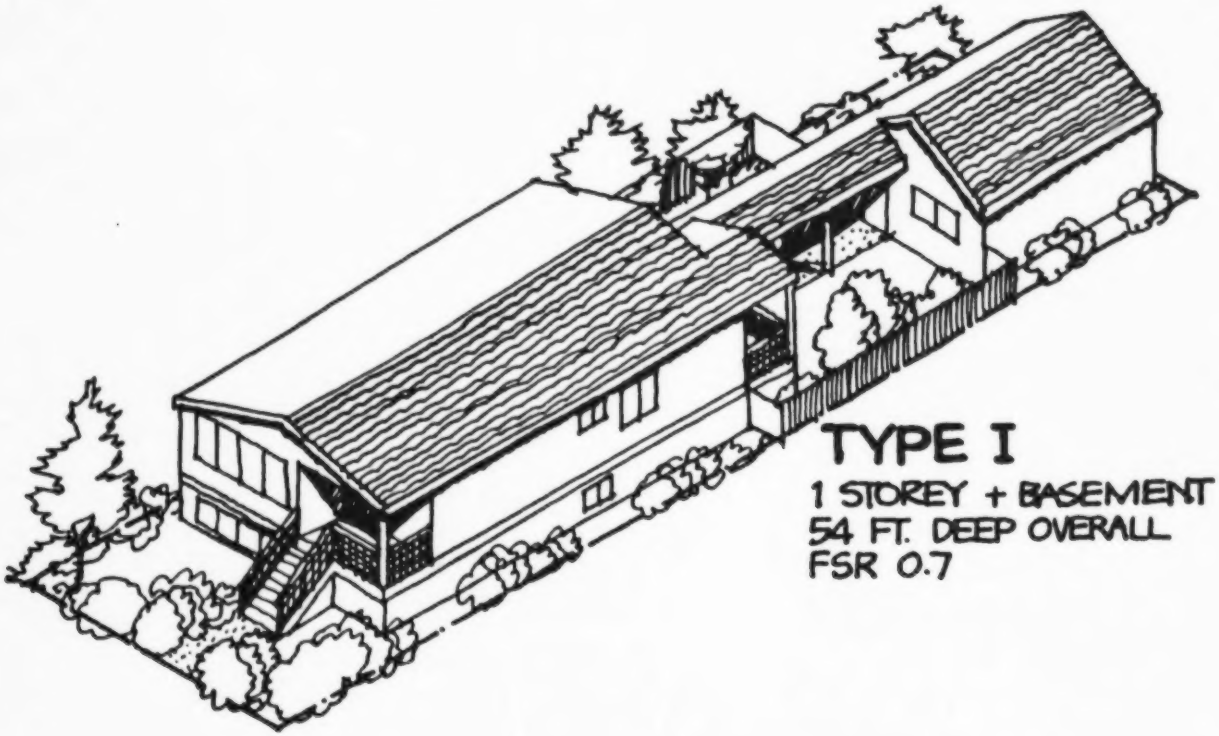
f) Type 2, illustrates maximum above ground development on two levels, also typical of what a builder might do.

g) Type 3, illustrates a more compact home but including a basement storey for maximum floor space ratio.

h) Type 4, illustrates a higher house form to take advantage of view.

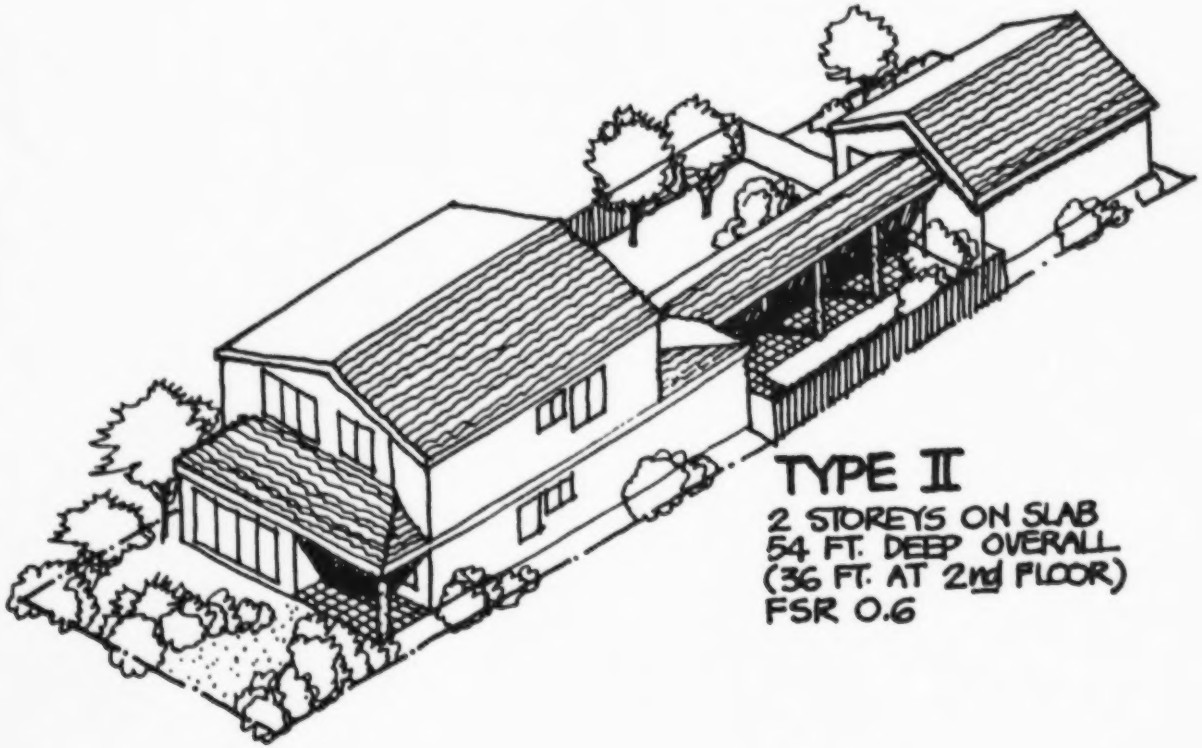
i) Type 5, illustrates that a 2 1/2 storey flat roofed building can fit within the cap zone area, provided that it is not 2 1/2 storey plus basement.

Naturally, there will be a much wider variety of house forms which develop under these by laws.



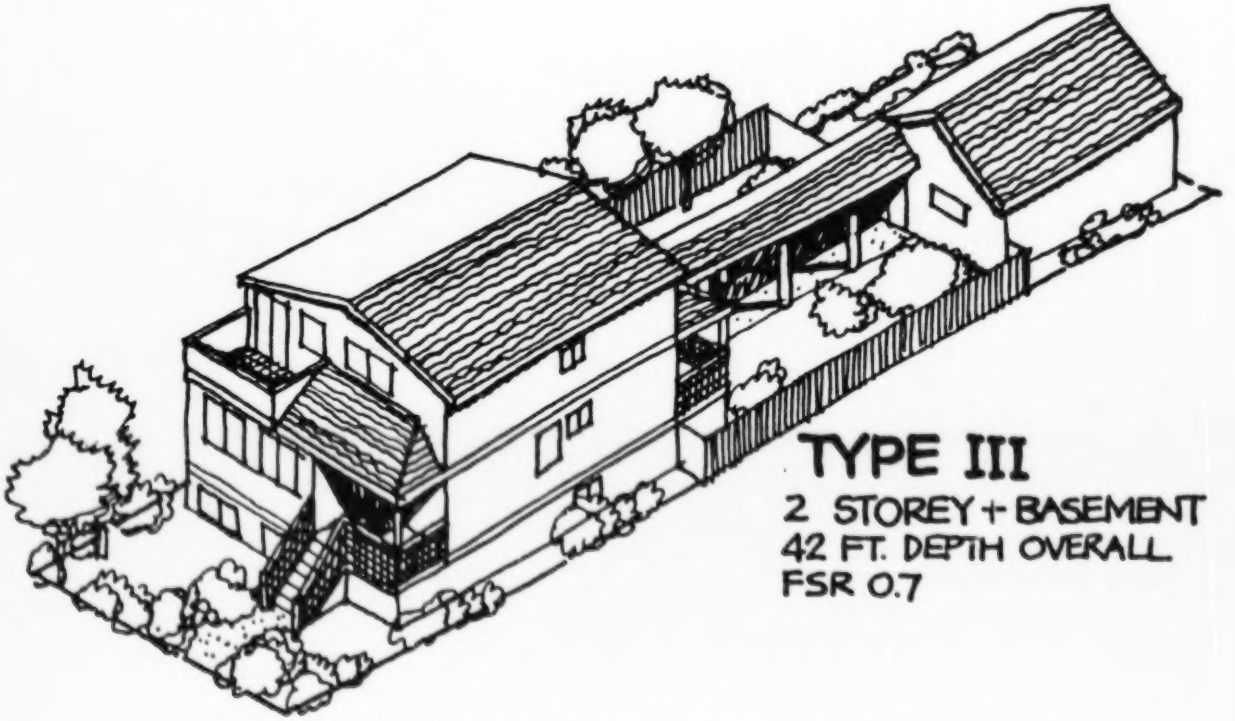
TYPE I

1 STOREY + BASEMENT
54 FT. DEEP OVERALL
FSR 0.7



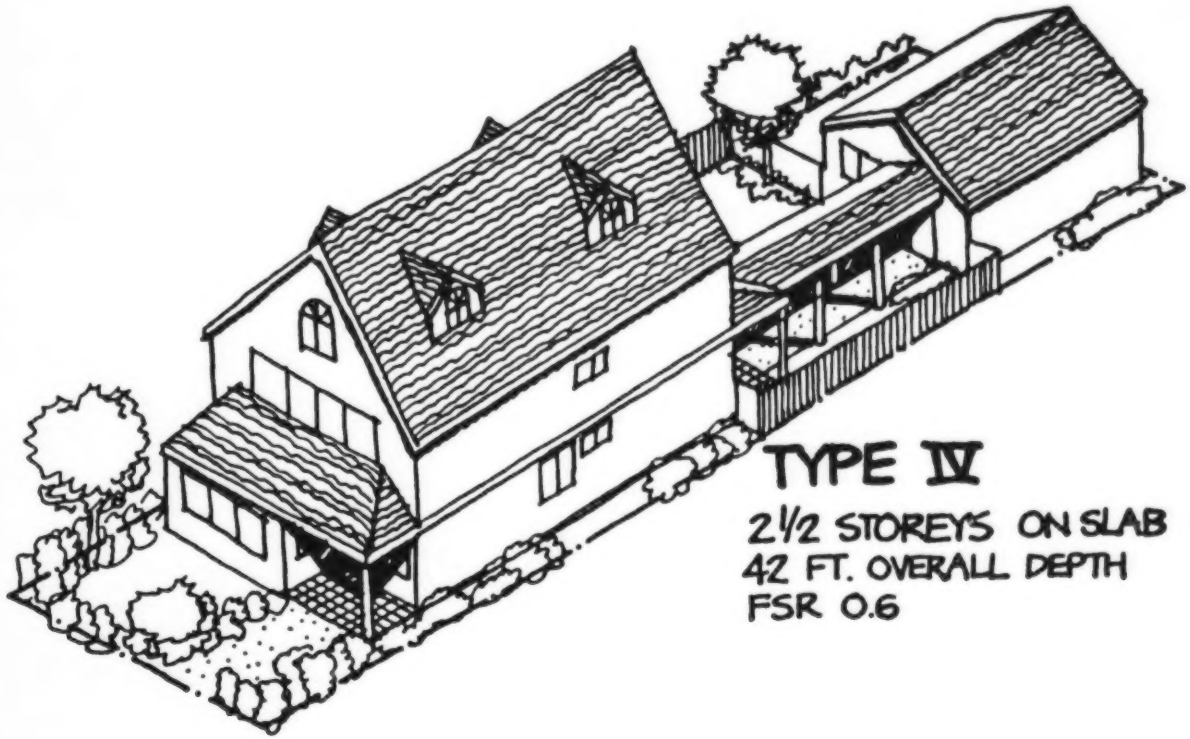
TYPE II

2 STOREYS ON SLAB
54 FT. DEEP OVERALL
(36 FT. AT 2nd FLOOR)
FSR 0.6



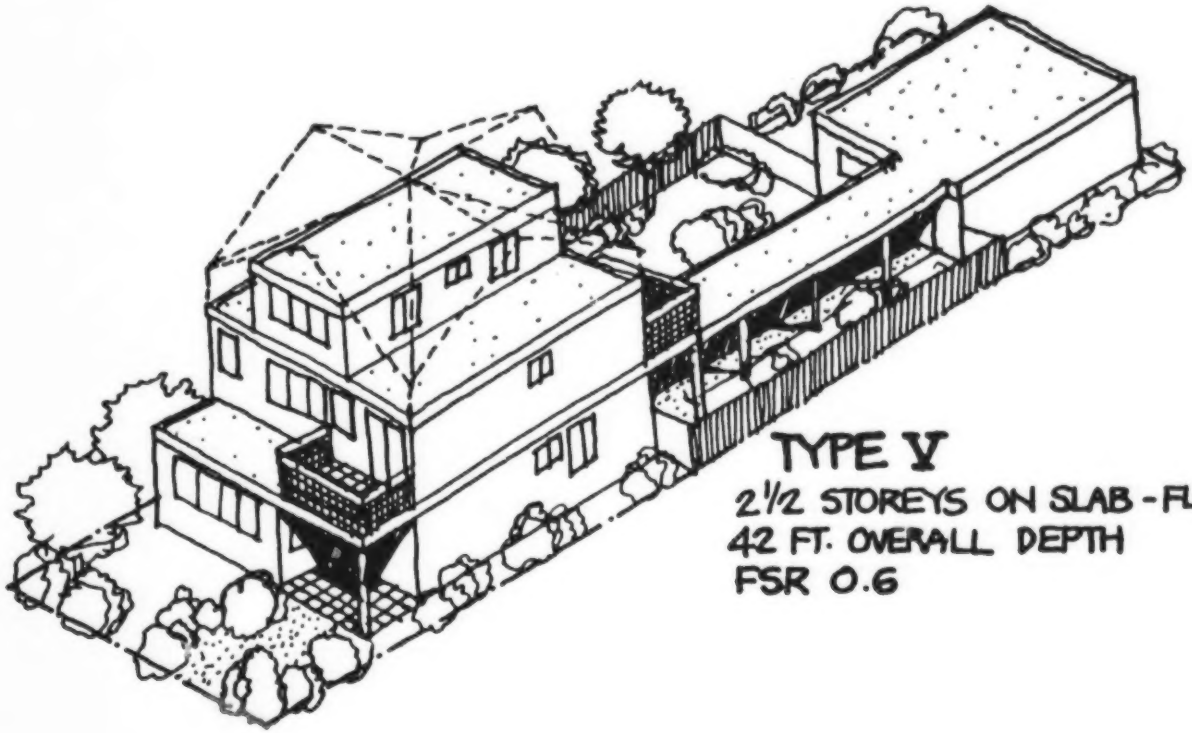
TYPE III

2 STOREY + BASEMENT
42 FT. DEPTH OVERALL
FSR 0.7



TYPE IV

2½ STOREYS ON SLAB
42 FT. OVERALL DEPTH
FSR 0.6



TYPE V

2½ STOREYS ON SLAB - FLAT ROOF
42 FT. OVERALL DEPTH
FSR 0.6